

# PATENT COOPERATION TREATY

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28 APR 2005

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## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 21 April 2005 (21.04.2005)

Applicant's or agent's file reference  
FP2060

### FOR FURTHER ACTION

See paragraph 2 below

International application No.  
PCT/SG 2004/000021

International filing date (day/month/year)  
20 January 2004 (20.01.2004)

Priority Date (day/month/year)  
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International Patent Classification (IPC) or both national classification and IPC  
H04J 13/02, 13/04, 13/00

Applicant

AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH

### 1. This opinion contains indications relating to the following items:

- ☒ Cont. No. I Basis of the opinion
- ☐ Cont. No. II Priority
- ☐ Cont. No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Cont. No. IV Lack of unity of invention
- ☒ Cont. No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Cont. No. VI Certain documents cited
- ☐ Cont. No. VII Certain defects in the international application
- ☐ Cont. No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ AT  
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**Continuation No. I**

**Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed.

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**Continuation No. V**

**Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 1-54	YES
	Claims ----	NO
Inventive step (IS)	Claims 1-54	YES
	Claims ----	NO
Industrial applicability (IA)	Claims 1-54	YES
	Claims ----	NO

**2. Citations and explanations:**

The following documents are cited in the search report:

- D1: US 6 532 250 B1
- D2: US 2002/0126741 A1
- D3: Proceedings of the IEEE Wireless Communications and Networking Conference, March, 2002
- D4: Proceedings of 13<sup>th</sup> IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, Vol.3, pp 992-997, 2002
- D5: Proceedings of the 54<sup>th</sup> IEEE Vehicular Technology Conference, VTC 2001 Fall, Vol. 2 , pp 843-847, 2001
- D6: Proceedings of the 54<sup>th</sup> IEEE Vehicular Technology Confernce, VTC 2001 Fall, Vol. 2, pp 664-668

Document D1 refers to methods and an apparatus for spreading and dispreading information signals in code division multiplex access communications systems.

Document D2 discloses a method and a system for transmission and frequency domain equalization for wideband CDMA system.

Document D3 concerns a multistage interference cancellation with frequency domain equalization for uplink transmission of single carrier cyclic prefix assisted CDMA system.

Document D4 relates to broadband packet wireless access based on VSF-OFCDM and MC/DS-CDMA

**WRITTEN OPINION OF THE  
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The subject matter of document D5 refers to design and performance of a quasi-synchronous CDMA system.

Document D6 discloses the use of a cyclic extension in OFDM.

However, all cited documents merely refer to the state of the art.

None of said documents disclose the advantageous combination of features as recited in independent claims 1, 27, 31 and 36 of the present application.

Thus the subject matter of independent claims 1, 27, 31 and 36 meet the requirements of novelty and inventive step.

The subject matter of the dependent claims can be considered to be new and inventive by virtue of dependency.

Industrial applicability is obviously given.

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